

DEPARTMENT OF THE NAVY
Office of the Chief of Naval Operations
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OPNAVINST 3150.27A
N873
22 March 1993

OPNAV INSTRUCTION 3150.27A

From: Chief of Naval Operations
To: All Ships and Stations

Subj: NAVY DIVING PROGRAM

- Ref:**
- (a) NAVSEAINST 3151.1, Diving and Manned Hyperbaric Systems Safety Certification Program (NOTAL)
 - (b) NAVSEA SS521-AA-MAN-010, U.S. Navy Diving and Manned Hyperbaric Systems Safety Certification Manual (NOTAL)
 - (c) NAVSEA 0994-LP-001-9010/9020, U.S. Navy Diving Manual (NOTAL)
 - (d) SECNAVINST 12000.20A, Civilian Diving in the Navy
 - (e) Manual of the Medical Department (P-117), U.S. Navy
 - (f) NAVSEAINST 10560.2B, Diving Equipment Authorized for Navy Use (NOTAL)
 - (g) SECNAVINST 3900.39B, Protection of Human Subjects
 - (h) BUMEDINST 3900.6A, Protection of Human Subjects (NOTAL)
 - (i) Naval Military Personnel Manual
 - (j) NAVEDTRA P-43245A, Personnel Qualification Standards for Navy Divers
 - (k) OPNAVINST 3150.28A, Diving Log (NOTAL)
 - (l) OPNAVINST 4441.12B, Retail Supply Support of Naval Activities and Operating Forces (NOTAL)
 - (m) OPNAVINST 5100.8G, Naval Safety and Occupational Health Program
 - (n) OPNAVINST 1500.8M, Navy Training Planning Process (NOTAL)
 - (o) OPNAVINST 5102.1C, Mishap Investigation and Reporting
 - (p) OPNAVINST 5450.180C, Mission and Functions of Naval Safety Center

1. Purpose. To establish policy and assign responsibilities for the Navy Diving Program, which encompasses all Navy diving and to enhance safety, by promoting a clearer understanding of diving

program policy and a more uniform execution of policy throughout the Navy.

2. Cancellation. OPNAVINST 3150.27.

3. Scope. This instruction applies to all diving, diver training, and manned hyperbaric systems operations conducted by the U.S. Navy, afloat and ashore. Personnel working in the dry environment of sonar domes, medical hyperbaric treatment unrelated to diving, and air crew personnel undergoing emergency underwater escape training are not addressed by this instruction.

4. Definitions

a. For the purpose of this instruction, diving is defined as any underwater activity or related hyperbaric facility operations in which personnel are subjected to elevated ambient pressure and use equipment such as:

(1) Deep Diving Systems (DDS) and ancillary equipment used to support saturation diving operations, including the Submarine Rescue Chambers (SRCs).

(2) Surface Supported Diving Systems (SSDS) and equipment.

(3) Self-Contained Underwater Breathing Apparatus (SCUBA), including open circuit, semi-closed circuit, and closed circuit designs using any breathing medium.

(4) Undersea habitats.

(5) Dry Deck Shelters (DDS), SEAL Delivery Vehicles (SDVs), Diver Propulsion Vehicles (DPVs), and their life support systems.

(6) Manned hyperbaric chambers, recompression chambers, and diving simulators, such as submarine escape trainers and diver support systems for aviation escape trainers.

(7) Diver tool systems which are pneumatically, electrically, or hydraulically driven or explosively actuated.

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(8) Other diving life support or diving equipment not specified above.

b. The following terms are defined as they relate to the Navy Diving Program:

(1) **System Certification.** The procedure for independent technical review, survey, test, and approval to ensure material and procedural adequacy of diving equipment or systems to perform safely within specified operational limits.

(2) **System Certification Authority (SCA).** The Systems Commands (SYSCOMs) delegate authority by this instruction for execution of the Diving and Hyperbaric Systems Certification Program for either afloat or ashore systems in references (a) and (b); this also refers to the specific codes so designated within the Commander, Naval Sea Systems Command (COMNAVSEASYSCOM) and the Commander, Naval Facilities Engineering Command (COMNAVFACENGCOM).

(3) **Authorized for Navy Use (ANU).** The designation applied to selected commercially available diving equipment, tools and accessories, and portable, ashore, and afloat hyperbaric system components which have undergone design safety reviews, test and evaluation, or both to ensure diver safety. The ANU process addresses two basic categories of equipment:

(a) **Category I.** Life support diving equipment (e.g., helmets, regulators, compressors, etc.).

(b) **Category II.** Non-life support equipment which is potentially hazardous to the diver (e.g., explosively actuated tools, surface powered electrical tools, hydraulic chain saws, etc.).

Diving equipment can be designated ANU only by the Supervisor of Diving (NAVSEA-00C3B) after an independent review of documentation.

(4) **Qualified Navy Diver.** Active duty and reserve military members and civilian employees of the Navy who have successfully completed formal training at a U.S. Navy diving school and maintain qualification. For the purpose of this instruction, any U.S. Army, U.S. Air Force, U.S. Coast Guard or U.S. Marine Corps personnel who have completed formal training at either a U.S. Navy diving school or some

other Department of Defense operated diving school, and who maintain qualifications for the equipment trained on, are considered to be equivalent to a "Qualified Navy Diver." Throughout this instruction, the term "Navy diver" applies to all military divers meeting the aforementioned requirements.

(5) **Waiver.** Authorization to depart from established operating/safety procedures, to use diving equipment which is not currently certified or ANU, to exceed specified operational limits, or to deviate from established physical standards and personnel qualifications for divers. Only Chief of Naval Operations (CNO), Director, Submarine Warfare Division (N87) can approve a request for a waiver, except for physical standards which can be approved by Commander, Naval Military Personnel Command (CHNAVPERS) with Chief, Bureau of Medicine and Surgery (BUMED) concurrence.

5. **Policy.** Personnel safety is the primary consideration in all diving and hyperbaric facility operations. Accordingly, the following policies and procedures are established for the Navy Diving Program:

a. CNO (N87) is the principal authority for Navy diving policy. The Director, Deep Submergence Systems (N873), acting for N87, will coordinate all diving matters including those related to Special Warfare (N851), Explosive Ordnance Disposal (N852), and the Naval Construction Force (N44).

b. COMNAVSEASYSCOM (SEA 00C) is the lead SYSCOM for acquisition, certification, and ANU designation of the following systems for all Navy diving: life support diving systems and equipment, afloat and portable hyperbaric systems, and surface supported diving systems. COMNAVSEASYSCOM is also responsible for ANU designation of commercially available diving equipment and components for all Navy Diving and Hyperbaric Systems.

c. COMNAVFACENGCOM is the acquisition and certification SYSCOM for shore-based hyperbaric facilities and diving systems.

d. All Navy diving will be conducted only by properly qualified Navy divers using only Navy approved and/or certified equipment, systems, and procedures. Only currently qualified Navy divers will be allowed to use Navy diving equipment, including

access to compressed gases for charging SCUBA/UBA cylinders. All diving with U.S. Navy equipment shall be in strict compliance with reference (c). Exceptions to this policy require prior approval from CNO (N873).

e. Civilian diving in the Navy will be conducted in strict compliance with references (c) and (d).

f. Commercial divers may not participate on Navy diving stations, nor may they use U.S. Navy diving equipment or diving gases. Exceptions to this policy require prior approval from CNO (N873).

g. Reference (e) establishes and issues physical standards for Navy divers.

(1) All Navy divers (including civilian Navy divers) must receive periodic diving physicals per reference (e) to remain qualified.

(2) Requests for exceptions from these standards must be submitted to CHNAVPERS via BUMED (MED-21).

h. Diving billets will be established or changed per OPNAVINST 1000.16G.

i. Joint Service and Allied Operations:

(1) U.S. Navy divers engaged in diving operations with other branches of the U.S. military will use only Navy approved and/or certified equipment and systems. Strict compliance with Navy diving procedures and policy will be observed.

(2) Except as indicated below, and in paragraph 5j, the use of foreign diving equipment and systems which are not ANU or certified for use by the U.S. Navy diver during peacetime allied training operations requires a waiver by CNO (N873).

(3) U.S. Navy divers permanently assigned to billets with the armed forces of allied nations, per OPNAVINST 5700.7G (NOTAL), are permitted to use foreign diving equipment and comply with the operational standards of that allied force. The senior U.S. Navy diver assigned to a particular unit shall ensure that no undue safety hazards exist before allowing the participation of U.S. personnel in diving operations.

j. Waiver Requests:

(1) Waiver requests, except for physical standards, will be submitted to CNO (N873) via COMNAVSEASYSCOM (00C). Waiver requests from shore facilities regarding fixed, shore-based diving and hyperbaric systems will be routed via COMNAV FACENCOM, information COMNAVSEASYSCOM (00C). COMNAVSEASYSCOM (00C) will coordinate review of the request and forward a recommendation to CNO (N873).

(2) Waiver requests must substantiate the urgent or unusual circumstances which justify their approval and will include a description of the operational scenario, system material condition and certification status, system limitations imposed by the waiver, potential impact on personnel safety, and required duration of the waiver.

k. All diving systems and manned hyperbaric facility systems, whether portable, shipboard mounted, or fixed ashore, and selected diving equipment will be certified or ANU listed using criteria and procedures published by COMNAVSEASYSCOM or granted a waiver by CNO before manned operational use. Manned dives conducted as part of the system certification process do not require waivers when conducted following the requirements of reference (b).

(1) Complete diving systems, manned hyperbaric systems, life support systems and equipment which are the result of development programs, and other diving equipment as designated by COMNAVSEASYSCOM (00C) will be certified per references (a) and (b), and a System Certification Certificate will be issued by the SCA to attest to the certification.

(2) Diving life support equipment having a history of safe use by commercial industry, other services, or other countries may be designated as "Authorized for Navy Use" per reference (f).

l. Research and Development Test and Evaluation (RDT&E):

(1) The U.S. Navy Experimental Diving Unit (NEDU), the Navy Medical Research Institute (NMRI), the Navy Coastal Systems Station (NCSS), and the Navy Civil Engineering Laboratory (NCEL), in conjunction with the ANU process or in the

performance of diving-related RDT&E, are authorized to purchase and use equipments which have not been certified or authorized for Navy use with written authorization from COMNAVSEASYSCOM (00C). All other activities, including other laboratories and research centers with appropriate facilities and qualified personnel conducting approved research and development projects, including evaluation, must obtain permission from CNO (N873) via COMNAVSEASYSCOM (00C) to purchase and use non-authorized equipment.

(2) Commands involved in RDT&E programs will follow the procedures for the protection of human subjects specified in references (g) and (h).

m. Diving equipment which may have contributed to an accident must be secured untampered, and shipped by fastest traceable means to NEDU for analysis. The equipment will not be dismantled, cleaned, or altered in any way prior to shipment to NEDU. OPREP-3 reports submitted for diving mishaps shall include CNO (N873), COMNAVSEASYSCOM (00C) and NEDU as information addressees.

n. Upon graduating from Navy diving schools, or other Chief of Naval Education and Training (CNET) approved diving course, divers are qualified to dive those systems on which they have been trained to the depth of the qualification dive. This qualification depth may be increased for a diver by the individual's command upon completion of a Navy/military dive to a deeper depth. However, the diver's qualifications may not be extended beyond the maximum depth authorized for the equipment, or the operating limits prescribed in reference (c), or to other equipment system types outside of CNET authorized diving courses, unless waived by CNO (N873).

6. Action. All commands exercising operational and/or administrative control of Navy divers will implement the policies and procedures of references (a) through (p), as they relate to the Navy Diving Program. They will ensure that diving is conducted only by properly qualified Navy divers using only authorized diving equipment, systems and procedures.

a. CNO will:

(1) Provide Navy Diving Program policy guidance.

(2) Coordinate fleet requests and establish requirements for specific diving systems and equipments.

(3) Be the final authority on all requests for waiver of system certification, safety and operational procedures, personnel qualifications (except physical standards), and material requirements related to Navy diving.

(4) Provide guidance to the Naval Safety Center (NAVSAFCEN) regarding the maintenance of Navy diving statistics, and the periodic safety survey of all commands with diving and/or hyperbaric systems.

(5) With support from BUMED, CNET and COMNAVSEASYSCOM (00C3B), develop and promulgate personnel qualification requirements for divers.

(6) With assistance from Chief of Naval Personnel, establish and issue diver qualification and requalification criteria and the administrative procedures for documentation in member's service records and diving logs.

(7) With assistance from Chief of Naval Personnel, establish, monitor, and administer career patterns for diver personnel under existing personnel management policies, consistent with the needs of the Navy.

(8) Coordinate with U.S. Army, U.S. Air Force, U.S. Coast Guard and U.S. Marine Corps on all diving matters, including requests for waivers.

b. Fleet commanders, type commanders, group and squadron commanders, unit commanders, commanding officers and officers in charge shall:

(1) Ensure that Navy divers employ only systems and equipment which have been certified or ANU, unless otherwise authorized here or for which a waiver has been granted by the CNO.

(2) Maintain diving system certification according to reference (a).

(3) Ensure that diving is conducted only by properly qualified personnel following approved procedures.

(4) Ensure all assigned diving personnel meet the physical standards set forth in reference (e) and are periodically requalified per reference (i). (Physical standards and requalification requirements for divers of other services are encouraged to be equivalent to those specified in references (e) and (i) but may differ slightly from U.S. Navy standards.)

(5) Develop and implement command training plans to ensure adequate training of divers in all unit diving mission areas. Evaluate the effectiveness of such training and compliance with the Navy Diving Program through periodic unit inspections. Training plans must address onboard systems and equipment and provide for development/enhancement of diver skills in all mission areas. Requalification and training will be appropriately documented in official service records and command training files. Reference (j) should be used to assist in building training plans.

(6) Each diving command shall maintain an official diving log of all dives conducted at the command. This log is an official record and is to be retained for 3 years. Additionally, individual divers will maintain a personal diving log documenting all Navy dives.

(7) Ensure Diving Log, DD 2544, is completed for all Navy dives and submitted to NAVSAFECEN per reference (k).

(8) Ensure diving mishaps resulting in death, lost-time, personnel injury, and/or significant material damage are reported within 24 hours to NAVSAFECEN per references (k) and (o), as appropriate. CNO (N873) and COMNAVSEASYSCOM (OOC) will be information addressees on all such reports. Additional mishap reporting may be required as governed by other instructions.

(9) Establish procedures to ensure diving equipment which may have contributed to an accident is secured untampered and shipped by fastest traceable means to NEDU for analysis. The procedure should specify that the equipment shall not be dismantled, cleaned, or altered in any way before shipment.

(10) Conduct operational, administrative, and material inspections of diving units and appropriate shore activities periodically to verify compliance with the Navy Diving Program.

c. COMNAVSEASYSCOM will:

(1) Designate a Supervisor of Diving to serve as the technical authority for Navy diving. His responsibilities will include the design, acquisition, operation, and maintenance of diver life support equipment, portable and shipboard hyperbaric facilities, surface supported diving systems, saturation diving systems, and diver tools and equipment.

(2) Be responsible for the design, testing and acquisition of diver support equipment, portable and shipboard hyperbaric facilities, surface supported diving systems, saturation diving systems, and diving tools and equipment.

(3) Provide technical support to CNO as required in the development of diving program policy and advise CNO on matters which affect Navy diving.

(4) Maintain the U.S. Navy Diving Manual for air and mixed-gas diving; ensure it is reviewed at least annually and updated as required. During the review process, ensure CNO (N873) is informed of, and approves all changes affecting established Navy diving policy prior to issuing changes to the manual.

(5) Establish, publish, and maintain publications as necessary to provide consistent and accurate technical guidance and safe operational and emergency procedures to the Fleet.

(6) Serve as the lead SYSCOM for Diving and Hyperbaric Systems Certification with the following responsibilities:

(a) Serve as the SCA for manned diving or hyperbaric systems which are portable or shipboard mounted. Conduct system certification surveys according to reference (a). CNO (N44, N851, N852, N873) will be notified of all units which fail to certify/recertify.

(b) Working in collaboration with COMNAVFAECENGCOM, establish certification policy and criteria (references (a) and (b)), and ensure

22 March 1993

it is reviewed at least annually and updated as required. Chair periodic meetings (at least annually) of the COMNAVSEASYSCOM and COMNAV-FACENGCOM SCAs to ensure maximum uniformity in certification criteria.

(c) Maintain a data base on the certification status of all diving, hyperbaric, and deep submergence systems.

(7) Establish and administer programs and procedures for acquisition of shipboard or portable hyperbaric facilities and diving systems. Provide tailored, comprehensive Integrated Logistic Support (ILS) and life-cycle management of acquired hardware.

(8) Establish and administer programs and procedures for testing and evaluation of commercially available equipment leading to ANU designation and/or system certification. Maintain an annually revised listing of diving systems and equipment which have been authorized for use by Navy divers and retain documentation supporting approval.

(9) Establish and maintain the Diver's Breathing Air Sampling Program for all naval activities maintaining an air diving capability.

(10) In response to CNO approved programs and requirements, develop and provide diving and life-support systems.

(11) Coordinate acquisition programs with COMNAV-FACENGCOM to ensure timely planning for facilities requirements and avoid duplication of RDT&E efforts.

(12) Develop and update diving equipment material allowance, outfitting, and load lists for all commands (other than Naval Construction Force units) having a requirement for diving systems per reference (1).

(13) Coordinate with other SYSCOMs, and provide technical recommendations to CNO (N873) on all requests for waivers of Navy Diving Program procedures, equipments and requirements.

(14) Develop and publish general inspection guidelines for diving systems. Coordinate this effort with NAVSAFECEN, COMNAV-FACENGCOM and other commands as appropriate.

(15) Provide technical, management, and funding support for NEDU.

(16) Assist in the correction of safety deficiencies discovered during inspections and surveys. Provide technical guidance or recommended policy changes for approval by higher authority to preclude recurrence of deficiencies.

(17) Initiate and administer contracts for commercial diving services as required. Coordinate such contractual efforts with fleet commanders to support fleet operations.

(18) Provide technical support for the design and development of alterations required to upgrade or correct system design deficiencies identified through certification surveys and technical review. Act as the technical review authority for all Diving Alteration (DIVEALT) requests and Ship Alteration (SHIPALT) requests, submitted by diving activities, in support of the cognizant COMNAVSEASYSCOM type desk.

(19) Provide technical support to dive system preoverhaul test and inspection (POT&I) including the development of SHIPALTs required as a result of deficiencies found. Additionally, during the execution of the overhaul, provide technical review of status, progress, and procedural compliance with certification and system requirements, by the contractor, shipyard, and/or the cognizant command at key points in the overhaul process.

d. COMNAV-FACENGCOM will:

(1) Provide design and acquisition management for fixed shore-based, man-rated hyperbaric and surface supplied diving facilities under the military construction program or other programs approved by the CNO.

(2) Develop and maintain a Naval Construction Force (NCF) diver capability for underwater construction, installation, inspection, operation, maintenance and repair of near shore and deep ocean facilities. Develop and manage RDT&E and acquisition programs necessary to equip these Underwater Construction Teams (UCTs) with initial outfitting of tools, construction equipment, techniques and skills to meet the present and anticipated mission requirements.

(3) Coordinate the acquisition of underwater construction tools and equipment with COMNAVSEASYS COM to avoid duplication of RDT&E efforts and ensure the consideration of similar operational requirements of other diving communities. Provide tailored, comprehensive Integrated Logistic Support (ILS) and life cycle management for COMNAV FACENG COM acquired tools and systems.

(4) Develop and maintain a current table of allowance, outfitting, and load lists for UCTs per reference (1).

(5) Provide technical expertise to CNO and other SYS COMs in the area of ocean engineering and construction as they relate to the Navy Diving Program and facility requirements.

(6) Provide recommendations to COMNAVSEASYS COM (00C) on all requests for Navy Diving Program waivers which affect NCF units.

(7) Initiate and administer contracts for commercial diving services as required. Coordinate such contractual efforts with appropriate fleet commanders to best support fleet operations.

(8) Serve as the SCA for fixed, shore-based hyperbaric facilities and surface supported diving systems with the following responsibilities:

(a) Collaborate with COMNAVSEA-SYS COM to establish certification criteria for those facilities which COMNAV FACENG COM certifies. Assist in establishing criteria which, to the maximum practical limit, will be uniform for shipboard, portable, and shore-based systems.

(b) Serve as the Navy technical expert providing shore-based diving and hyperbaric system certification support to other Department of Defense (DoD) and federal agencies and commercial or educational institutions engaged in Navy funded RDT&E programs. Support may be provided for manned and unmanned facilities as required.

(c) Advise COMNAVSEASYS COM (00C) of the certification status of all systems under COMNAV FACENG COM cognizance as required.

(d) Provide technical support for the design and development of alterations required to

upgrade or correct system design deficiencies identified through certification surveys and technical review. Act as the technical review authority for all SHIPALT requests, submitted by diving activities, in support of the cognizant COMNAVSEASYS COM type desk.

(e) Provide technical support to dive system POT&I including the development of alterations required as a result of deficiencies found. Additionally, during the execution of the overhaul, provide technical review of status, progress, and procedural compliance with certification and system requirements, by the contractor, shipyard, and/or the cognizant command at key points in the overhaul process.

(f) Conduct system certification surveys of shore-based diving facilities according to reference (a).

(9) Publish and maintain unique engineering design, construction, maintenance, repair and work techniques manuals related to shore-based hyperbaric facilities and to underwater construction, near shore, and in deep ocean facilities.

(10) Assist in the correction of safety deficiencies discovered during surveys and inspections. Initiate technical guidance or recommended policy changes for approval by higher authority to preclude recurrence of deficiencies.

e. Commander, Naval Supply Systems Command will:

(1) Provide material support according to reference (1) for diving and hyperbaric systems and equipment to meet fleet requirements.

(2) Maintain liaison with COMNAVSEA-SYS COM and COMNAV FACENG COM according to existing program support agreements and provide supply management guidance for Navy diving equipment and systems.

f. Chief of Naval Personnel (CHNAVPERS) will:

(1) Provide for the selection of personnel for basic, advanced, and specialized diver training. Exercise approval authority over requests to deviate from diver personnel qualification requirements.

(2) Obtain recommendations from BUMED on requests to waive physical and psychological standards.

(3) Develop officer and enlisted diver classification codes.

g. The Chief of Naval Education and Training shall:

(1) Establish and administer basic, advanced, and specialized diver training.

(2) Establish, publish, and maintain Personnel Qualification Standards (PQS) for Divers.

(3) Approve non-Navy sponsored military diving courses as sufficiently rigorous to designate graduates as "Qualified Navy Divers."

h. Chief, Bureau of Medicine and Surgery will:

(1) Establish and publish medical standards for divers and coordinate proposed changes with the appropriate CNO sponsors and the Supervisor of Diving. Provide recommendations to CHNAVPERS concerning requests to waive these standards for diver training candidates and otherwise qualified divers.

(2) Provide for the selection of Diving Medical Officers and Diving Medical Technicians, and coordinate their training with the Chief of Naval Education and Training.

(3) Represent the Navy in diving medical matters with other DoD and federal agencies.

(4) Coordinate with other military Services on issues related to diving medicine and diving medical personnel.

i. Commander, Naval Safety Center will:

(1) Carry out the provisions of references (m) and (p) as they relate to the Navy Diving Program.

(2) Maintain a data repository for all aspects of diving safety, including records of each Navy dive

per reference (k). Analyze compiled data for trends in personnel and equipment performance and procedural adequacy. Periodically distribute findings to all diving commands.

(3) Provide assistance in the area of diving safety to all diving commands and to COMNAVSEASYSCOM as required. Advise CNO (N873) on the status of the Navy Safety and Occupational Health Program as it relates to diving.

(4) Conduct diving safety surveys of, and assistance visits to, all diving activities at least once every 2 years. Make timely recommendations on matters related to diving safety.

(5) As directed by the CNO and as requested by Fleet Commanders, assist in the investigation of diving mishaps according to references (k) and (o). Determine if changes to the Navy Diving Program policies, procedures, or training are indicated to preclude recurrence of similar mishaps.

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Director, Submarine Warfare
Division

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